

## Multimedia Appendix 2. Information about studies included in the systematic review

| Author, Year (Country)<br>Development manuscript / link<br>to decision aid                                   | Study<br>design | Decision context                                      | Interventions<br>(Sample size)  | Control<br>(Sample size)                              | Features being<br>tested (Types of<br>components)†  | Quality of decision-making<br>outcome (SMDs provided for<br>RCTs reporting knowledge or<br>decisional conflict) |
|--|-----------------|---|---|---|---|---|
| <b>TREATMENT</b>   |                 |   |   |   |   |   |
| <b>Akl, 2007 [32]</b><br>(United States)   | Pre/post        | Chronic obstructive<br>pulmonary disease<br>treatment | Computer-based decision aid<br>(N=8)  | Baseline measures                                     | CC(abcd), T(c),<br>PN(b), EVC(c), F(d)  | Knowledge<br>Decisional conflict  |
| <b>Berman, 2011 [33]</b><br>(United States)  | Pre/post        | Abdominal aortic<br>aneurysm treatment                | Computer-based decision aid<br>(N=12)   | Baseline measures                                     | CC(bc), T(b), PN(a),<br>F(b), SS(bc)  | Knowledge<br>Decisional conflict  |
| <b>*Berry, 2013 [34]</b><br>(United States)<br><i>Berry, 2010 [35]</i>                                       | RCT             | Prostate cancer<br>treatment                          | Web-based decision aid +<br>usual patient education + web<br>links (n=218)          | Usual patient education<br>+ web links (n=182)        | CC(a), T(abc),<br>PN(b), F(f), SS(c)  | Decisional conflict (SMD=0.08)<br>Decisional certainty  |
| <b>Brink, 2000<sup>a</sup> [36]</b><br>(United States)   | Pre/post        | Prostate cancer<br>treatment                          | CD-ROM decision aid (N=43)  | Baseline measures                                     | CC(ab), T(b), PN(a),<br>EVC(ac), F(d),<br>SS(b)   | Knowledge<br>Decisional self-efficacy   |
| <b>*Davison, 2007 [31]</b><br>(Canada)   | RCT             | Prostate cancer<br>treatment                          | Tailored risk summary +<br>videotape + written<br>information package (n=148)       | Videotape + written<br>information package<br>(n=145) | T(bc), F(f)   | Decisional conflict (SMD=0.04)<br>Satisfaction with decision making   |
| <b>*de Achaval, 2012 [37]</b><br>(United States)   | RCT             | Knee osteoarthritis<br>treatment                      | 1: Videobooklet + values<br>clarification exercise (n=69)<br>2: Videobooklet (n=70) | Educational booklet<br>(n=69)                         | 1: PN(a), EVC(cd),<br>F(cf)<br>2: PN(a)   | Decisional conflict (SMD=0.37)  |
| <b>Deyo, 2000<sup>b</sup> [38]</b><br>(United States)<br><i>Spunt, 1996 [39]</i><br><i>Phelan, 2001 [40]</i> | RCT             | Back pain treatment                                   | Videodisc + booklet (n=190)   | Booklet (n=203)                                       | CC(abc), T(ab),<br>PN(a), F(f), SS(c)   | Satisfaction with decision making   |
| <b>*Diefenbach, 2012 [30]</b><br>(United States)<br><i>Diefenbach, 2004 [41]</i>                             | RCT             | Prostate cancer<br>treatment                          | Computer-based decision aid<br>(n=53)   | Standard brochures<br>(n=19)                          | CC(ab), T(ab[c] <sup>+</sup> ),<br>PN(a), EVC(b,<br>unclear), F(af),<br>SS(c)<br>*sometimes<br>included | Decisional conflict (SMD=0.62)  |
| <b>*Feldman-Stewart, 2012 [42]</b><br>(Canada)<br><i>Feldman-Stewart, 2006 [43]</i>                          | RCT             | Prostate cancer<br>treatment                          | Computer-based decision aid<br>with values clarification<br>(n=69)                  | Computer-based<br>decision aid (n=65)                 | T(c), EVC(c), F(d)  | Decisional conflict (SMD=0.10)  |
| <b>Fraenkel, 2007 [44]</b><br>(United States)  | RCT             | Knee pain treatment                                   | Computer-based decision aid<br>(n=44)   | Information pamphlet<br>(n=40)                        | EVC(d), F(cdf)  | Decisional self-efficacy  |
| <b>Fraenkel, 2012 [45]</b><br>(United States)  | Pre/post        | Rheumatoid arthritis<br>treatment                     | Web-based decision aid<br>(N=104)   | Baseline measures                                     | CC(abc), EVC(c),<br>F(bd)   | Knowledge<br>Decisional conflict  |
| <b>Heller, 2008 [46]</b><br>(United States)  | RCT             | Breast cancer<br>treatment                            | CD-ROM decision aid (n=67)  | Usual care (n=66)                                     | CC(a), T(c), PN(a),<br>SS(c)  | Knowledge (Insufficient data to<br>calculate SMD)<br>Satisfaction with decision making                          |

|  |          |  |  |  |   |   |
|--|----------|--|--|--|---|---|
| <b>Jibaja-Weiss, 2006<sup>c</sup> [47]</b><br>(United States)<br><i>Development manuscript not accessible</i>  | Pre/post | Breast cancer treatment                | Computer-based decision aid (N=44)   | Baseline measures  | CC(abc), T(abc), PN(ab), EVC(bc), F(f), SS(abc) | Decisional conflict   |
| <b>*Jibaja-Weiss, 2011<sup>c</sup> [48]</b><br>(United States)<br><i>Jibaja-Weiss, 2006 [47]</i><br><i>Link was updated; not used in abstraction</i> | RCT      | Breast cancer treatment                | Computer-based decision aid (n=44)   | Usual care (n=39)  | CC(abc), T(abc), PN(ab), EVC(bc), F(f), SS(abc) | Knowledge (SMD=0.75)<br>Decisional conflict (SMD=0.25)<br>Satisfaction with decision making<br>Decisional certainty |
| <b>Liao, 1996<sup>d</sup> [49]</b><br>(United States)  | Pre/post | Ischemic heart disease treatment       | Videodisc decision aid (N=60)  | Baseline measures  | CC(ab), T(b), PN(a)                             | Decisional certainty  |
| <b>Maslin, 1998 [50]</b><br>(United Kingdom)   | RCT      | Breast cancer treatment                | Videodisc (n=51)   | Usual care (n=49)  | CC(c), T(ab), SS(c)                             | Satisfaction with decision making   |
| <b>Molenaar, 2001 [51]</b><br>(Netherlands)  | RCT      | Breast cancer treatment                | CD-ROM decision aid (n=87)   | Usual care (n=72)  | CC(abcd), PN(a), SS(ac)                         | Satisfaction with decision making   |
| <b>Morgan, 2000<sup>d</sup> [52]</b><br>(Canada)<br><i>Liao, 1996 [49]</i>   | RCT      | Ischemic heart disease treatment       | Videodisc (n=90)   | Usual care (n=97)  | CC(ab), T(ab), PN(a), F(f), SS(c)               | Knowledge (Insufficient data to calculate SMD)<br>Satisfaction with decision making                                 |
| <b>*Murray, 2001 [53]</b><br>(United Kingdom)<br><i>Clinician guide not accessible</i>   | RCT      | Menopausal symptom treatment           | Videodisc decision aid + booklet (n=94)  | Usual care (n=96)  | CC(bc), SS(c)                                   | Decisional conflict (SMD=0.54)<br>Decisional certainty  |
| <b>Phelan, 2001<sup>b</sup> [40]</b><br>(United States)<br><i>Spunt, 1996 [39]</i>   | RCT      | Back pain treatment                    | Videodisc decision aid + booklet (n=41)  | Booklet (n=49)   | CC(abc), T(ab), PN(a), F(f)                     | Knowledge (Insufficient data to calculate SMD)  |
| <b>Piercy, 1999 [54]</b><br>(Canada)<br><i>Development manuscript not accessible</i>   | Pre/post | Benign prostatic hyperplasia treatment | Videodisc decision aid (N=635)   | Baseline measures  | CC(c), T(ab), PN(a), F(f), SS(c)                | Decisional certainty  |
| <b>*Protheroe, 2007 [55]</b><br>(United Kingdom)   | RCT      | Menorrhagia treatment                  | Computerized decision aid + written information (n=54 for knowledge; n=69 for decisional conflict) | Written information (n=54 for knowledge; n=69 for decisional conflict) | CC(bd), EVC(bcd), F(df)                         | Knowledge (SMD=0.57)<br>Decisional conflict (SMD=1.04)<br>Decisional certainty                                      |
| <b>*Rostom, 2002 [56]</b><br>(Canada)  | RCT      | Menopausal symptom treatment           | Computer-based decision aid (n=25)   | Audiobooklet decision aid (n=26)                                       | CC(b), T(unclear), F(b)                         | Knowledge (SMD=0.64)  |
| <b>Sawka, 2011 [57]</b><br>(Canada)<br><i>Sawka, 2011 [58]</i>   | Pre-post | Papillary thyroid cancer treatment     | Web-based decision aid (N=50)  | Baseline measures  | CC(bcd), SS(a)                                  | Knowledge   |
| <b>*Sawka, 2012 [59]</b><br>(Canada)<br><i>Sawka, 2011 [58]</i>  | RCT      | Papillary thyroid cancer treatment     | Web-based decision aid (n=37)  | Usual care (n=37)  | CC(bcd), SS(a)                                  | Knowledge (SMD=1.88)<br>Decisional conflict (SMD=1.48)<br>Decisional certainty                                      |
| <b>*Schapira, 2007 [60]</b><br>(United States)   | RCT      | Menopausal symptom treatment           | Computer-based decision aid (n=85)   | Printed pamphlet (n=86)  | CC(ad), T(ab), PN(a)                            | Knowledge (SMD=-0.15)<br>Decisional conflict (SMD=0.07)<br>Satisfaction with decision making                        |
| <b>*Simon, 2012 [61]</b><br>(Germany)  | RCT      | Depression or back pain treatment      | Web-based decision aid (n=308)   | Static patient information (n=349)                                     | CC(bc), T(abc), SS(c)                           | Knowledge (SMD=0.23)<br>Decisional conflict (SMD=0.24)  |

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|---|----------|---|--|---|---|---|
| <b>Sivell, 2012 [62]</b><br>(United Kingdom)<br><i>Sivell, 2012 [63]</i><br><i>Webpage data abstracted; however, link not currently accessible (update in progress)</i> | Pre/post | Breast cancer treatment   | Web-based decision aid (n=45)  | Baseline measures (n=54)  | CC(abcd), PN(ab), EVC(c), F(df), SS(ac)       | Knowledge<br>Decisional certainty   |
| <b>Spunt, 1996<sup>b</sup> [39]</b><br>(United States)  | Pre/post | Back pain treatment   | Videodisc decision aid (N=175)   | Baseline measures   | CC(abc), T(ab), PN(a), F(f)                   | Decisional certainty  |
| <b>Taylor, 2010<sup>a</sup> [64]</b><br>(United States)   | RCT      | Prostate cancer treatment   | CD-ROM decision aid + decision tools (n=42)  | CD-ROM decision aid (n=53)  | CC(b), T(bc), EVC(b)                          | Satisfaction with decision making   |
| <b>*Thomson, 2007 [65]</b><br>(United Kingdom)<br><i>Thomson, 2002 [66]</i>   | RCT      | Atrial fibrillation treatment   | Computer-based decision aid (n=53)   | Paper guidelines (n=55)   | T(abc), EVC(c), F(def), SS(c)                 | Knowledge (SMD=0.06)<br>Decisional conflict (SMD=0.42)  |
| <b>van Til, 2010 [67]</b><br>(Netherlands)  | Pre/post | Ankle-foot impairment treatment after stroke or arm-hand function treatment after cervical spinal cord injury | Web-based decision aid (n=39 for stroke; n=38 for spinal injury)   | Baseline measures   | EVC(unclear)                                  | Knowledge<br>Decisional conflict  |
| <b>RISK MANAGEMENT</b>  |          |   |  |   |   |   |
| <b>Hooker, 2011<sup>e</sup> [68]</b><br>(United States)<br><i>Kaufman, 2003 [69]</i>  | RCT      | Breast cancer risk management   | CD-ROM decision aid (n=96)   | Usual care (n=108)  | CC(abc), T(abc), PN(a), EVC(cd), F(de), SS(c) | Decisional certainty  |
| <b>*Huyghe, 2009 [70]</b><br>(France)   | RCT      | Fertility risk management   | Computer-based decision aid (n=10)   | Usual care (n=10)   | CC(abd), EVC(c), F(b), SS(bc)                 | Knowledge (SMD=0.51)<br>Decisional conflict (SMD=1.23)  |
| <b>*Montgomery, 2007 [71]</b><br>(United Kingdom)<br><i>Emmett, 2007 [72]</i>   | RCT      | Vaginal birth after cesarean risk management  | 1: Computer-based decision aid (n=198 for knowledge and decisional conflict)<br>2: Computer-based information program (n=196 for knowledge; n=201 for decisional conflict) | Usual care (n=202 for knowledge; n=201 for decisional conflict)   | 1: CC(ab), EVC(c), F(df)<br>2: CC(abd)        | Knowledge (SMD=0.57)<br>Decisional conflict (SMD=0.28)<br>Satisfaction with decision making                           |
| <b>*Saver, 2007 [73]</b><br>(United States)   | RCT      | Menopausal risk management  | <i>RCT 1: Web-based decision aid (n=144)</i><br><i>RCT 2: Web-based decision aid (n=22)</i>  | <i>RCT 1: Brochure (n=199)</i><br><i>RCT 2: Usual care (n=19)</i> | CC(bd), EVC(b), SS(a)                         | Knowledge (SMD=0.49)<br>Decisional conflict (SMD=-0.02)<br>Satisfaction with decision making                          |
| <b>Schwartz, 2009<sup>e</sup> [74]</b><br>(United States)<br><i>Kaufman, 2003 [69]</i>  | RCT      | Breast cancer risk management   | CD-ROM decision aid (n=110)  | Usual care (n=114)  | CC(abc), T(abc), PN(a), EVC(cd), F(de), SS(c) | Decisional conflict (Insufficient data to calculate SMD)<br>Satisfaction with decision making<br>Decisional certainty |
| <b>*Wilkie, 2013 [75]</b><br>(United States)<br><i>Gallo, 2013 [76]</i>   | RCT      | Reproductive health risk management in people with sickle cell disease or trait                               | Web-based decision aid (n=114)   | Web-based e-Book (n=117)  | CC(b), T(ab), PN(ab), EVC(ef), SS(b)          | Knowledge (SMD=0.43)  |

| SCREENING  |          |                             |  |   |   |   |
|--|----------|-----------------------------|--|---|---|---|
| <b>Allen, 2009 [77]</b><br>(United States)   | Pre/post | Prostate cancer screening   | Computer-based decision aid (N=107)  | Baseline measures   | CC(abc), EVC(unclear), F(f)                               | Knowledge<br>Decisional conflict<br>Decisional certainty<br>Decisional self-efficacy                                    |
| <b>*Allen, 2010 [78]</b><br>(United States)<br><i>Development manuscript not accessible</i>  | RCT      | Prostate cancer screening   | Computer-based decision aid (n=291)  | Usual care (n=334)  | CC(abc), T(ab), PN(b), EVC(c), F(ef)                      | Knowledge (SMD=0.19)<br>Decisional conflict (SMD=0.17)<br>Decisional certainty<br>Decisional self-efficacy              |
| <b>*Ellison, 2008 [79]</b><br>(United States)<br><i>Link no longer accessible</i>  | RCT      | Prostate cancer screening   | Enhanced web-based decision aid (n=46)   | Standard web-based decision aid (n=41)                    | CC(b), T(a), PN(a), SS(a)                                 | Knowledge (SMD=0.58)  |
| <b>Evans, 2010 [80]</b><br>(United Kingdom)<br><i>Link no longer accessible</i>  | RCT      | Prostate cancer screening   | 1: Web-based decision aid (n=48)<br>2: Paper-based decision aid (n=57)   | 1: Usual care (n=69)<br>2: Usual care at 6 months (n=100) | 1: PN(a), EVC(c)<br>2: no multimedia features             | Knowledge (Insufficient data to calculate SMD)<br>Decisional conflict (Insufficient data to calculate SMD)              |
| <b>*Frosch, 2008 [81]</b><br>(United States)   | RCT      | Prostate cancer screening   | 1: Traditional decision aid + chronic disease trajectory model (n=152)<br>2: Chronic disease trajectory model (n=153)<br>3: Traditional decision aid (n=155) | Internet links (n=151)                                    | 1: PN(a), EVC(cd), SS(c)<br>2: EVC(cd)<br>3: PN(a), SS(c) | Knowledge (SMD=0.25)<br>Decisional conflict (SMD=0.07)  |
| <b>Green, 2004 [82]</b><br>(United States)<br><i>Development manuscript not accessible</i>   | RCT      | BRCA1/2 screening           | CD-ROM decision aid (n=56)   | Usual care (n=61)   | CC(a)   | Knowledge (Insufficient data to calculate SMD)<br>Satisfaction with decision making                                     |
| <b>Kuppermann, 2009 [83]</b><br>(United States)  | RCT      | Prenatal screening          | Computer-based decision aid (n=244)  | Online educational booklet (n=252)                        | T(c, unclear), EVC(unclear), F(f)                         | Knowledge (Insufficient data to calculate SMD)<br>Decisional conflict (Insufficient data to calculate SMD)              |
| <b>Leung, 2004 [84]</b><br>(Hong Kong)   | RCT      | Prenatal screening          | Computerized decision aid + video + information leaflet (n=99)   | Video + information leaflet (n=101)                       | CC(bc), T(c)  | Decisional certainty  |
| <b>Lindblom, 2012 [85]</b><br>(Australia)<br><i>Link no longer accessible</i>  | Pre/post | Colorectal cancer screening | Web-based decision aid (N=81)  | Baseline measures   | T(c), F(b)  | Knowledge   |
| <b>*Manne, 2010 [86]</b><br>(United States)  | RCT      | Lynch syndrome screening    | CD-ROM decision aid + education session (n=92)   | Education session only (n=95)                             | CC(bc)  | Knowledge (SMD=1.09)<br>Decisional conflict (SMD=0.36)<br>Satisfaction with decision making<br>Decisional self-efficacy |
| <b>*Mathieu, 2010 [87]</b><br>(Australia)<br><a href="http://www.mammogram.med.usyd.edu.au">www.mammogram.med.usyd.edu.au</a> [88] | RCT      | Breast cancer screening     | Computer-based decision aid (n=113)  | Usual care (n=189)  | CC(acd), PN(a), EVC(c), F(f)                              | Knowledge (SMD=0.59)<br>Decisional certainty  |

|   |          |   |   |  |   |   |
|---|----------|---|---|--|---|---|
| <b>Ruffin, 2007 [89]</b><br>(United States)<br><i>Link no longer accessible</i>   | RCT      | Colorectal cancer screening                             | Computer-based decision aid (n=87)  | Standard website (n=87)                                | EVC(d), F(d), SS(c)   | Decisional certainty  |
| <b>Rupert, 2013 [90]</b><br>(United States)   | Pre/post | Hereditary breast and ovarian cancer syndrome screening | Web-based decision aid (N=48)   | Baseline measures                                      | CC(abd), T(ab), EVC(a), F(df), SS(c)  | Knowledge<br>Decisional self-efficacy   |
| <b>*Schroy, 2011 [91]</b><br>(United States)<br><i>www.yourdiseaserisk.wustl.edu [92]</i>   | RCT      | Colorectal cancer screening                             | 1: Computer-based decision aid + personalized risk assessment (n=223)<br>2: Computer-based decision aid (n=212) | Webpage (n=231)  | 1: CC(abc), T(ab), PN(a), EVC(d), SS(c)<br>2: CC(abc), PN(a), EVC(d), SS(c) | Knowledge (SMD=0.91)<br>Satisfaction with decision making   |
| <b>*Volk, 2008 [93]</b><br>(United States)  | RCT      | Prostate cancer screening                               | Computer-based decision aid (n=38 for low literacy; n=108 for high literacy)                                    | Audio-booklet (low literacy n=46; high literacy n=131) | CC(ab), T(a), PN(b), EVC(e), SS(a)  | Knowledge (Insufficient data to calculate SMD)<br>Decisional conflict (SMD=0.33)                                    |
| <b>PREVENTION</b>   |          |   |   |  |   |   |
| <b>*Banegas, 2013 [94]</b><br>(United States)<br><i>Fagerlin, 2011 [95]</i>   | RCT      | Breast cancer prevention                                | Web-based decision aid (n=690)  | Usual care (n=160)                                     | T(ab), EVC(unclear)   | Decisional conflict (SMD=0.56)<br>Decisional certainty  |
| <b>*Ozanne, 2007 [96]</b><br>(United States)  | RCT      | Breast cancer prevention                                | Computer-based decision aid (n=15)  | Usual care (n=15)                                      | T(ab)   | Knowledge (SMD=0.63)<br>Decisional conflict (SMD=0.78)<br>Satisfaction with decision making<br>Decisional certainty |
| <b>Sheridan, 2006<sup>f</sup> [97]</b><br>(United States)<br><i>Pignone, 2004 [98]</i><br><i>Link was updated; not used in abstraction</i>                        | RCT      | Coronary heart disease prevention                       | Web-based decision aid (n=41)   | Risk factor list (n=34)                                | T(abc), F(f), SS(c)   | Decisional certainty  |
| <b>Sheridan, 2010<sup>f</sup> [99]</b><br>(United States)<br><i>Pignone, 2004 [98]</i><br><i>www.med-decisions.com/h2hv2 [100]</i>                                | RCT      | Coronary heart disease prevention                       | Web-based decision aid + values clarification (n=75)  | Web-based decision aid (n=62)                          | EVC(cd), F(c)   | Knowledge (Insufficient data to calculate SMD)<br>Decisional certainty<br>Decisional self-efficacy                  |
| <b>Sheridan, 2011<sup>f</sup> [101]</b><br>(United States)<br><i>Pignone, 2004 [98]</i><br><i>Sheridan, 2010 [99]</i><br><i>www.med-decisions.com/h2hv2 [100]</i> | RCT      | Coronary heart disease prevention                       | Web-based decision aid (n=77)   | Risk factor list (n=77)                                | CC(cd), T(abc), EVC(cd), F(cf), SS(c)                                       | Decisional certainty  |

\*Studies included in the meta-analysis; <sup>a-f</sup>Studies employing the same decision aids are denoted with alpha superscripts (a through f); it is important to note, however, that the studies may be testing different features of the decision aid (as determined by the control group) or updated versions of the same decision aid; †Legend for column: CC = content control (with types: a = navigation, b = clarity of information, c = optional information, d = access to external resources), T = tailoring (with types: a = demographics, b = clinical condition, c = values, preferences, and beliefs, d = knowledge deficits), PN = patient narratives (with types: a = patient stories, b = behavior modeling), EVC = explicit values clarification (with types: a = decision points, b = notebook, c = weighting exercises, d = trade-off exercises, e = social matching, f = personal reflection), F = feedback (with types: a = decision aid progress, b = knowledge, c = summary of preferences, d = optimal choice, e = decisional consistency, f = summary of decision aid activity), and SS = social support (with types: a = community support, b = integration of family, c = facilitation of shared decision making).